

AMENDMENT TO THE CLAIMS

Please **AMEND** claims 36, 38, and 39 as follows.

A copy of all pending claims and a status of the claims is provided below.

Claim 1. (previously presented) A method of fabricating a semiconductor structure, comprising the steps of:

forming a raised source region on a substrate;

forming a raised drain region on the substrate; and

forming a first silicon layer over the raised source region and a second silicon layer over the raised drain region,

wherein the first silicon layer formed over the raised source region and the second silicon layer over the raised drain region include cap portions and sidewall portions, the method further comprising a step of forming sacrificial spacers along the silicon sidewall portions.

Claim 2. (original) A method according to claim 1, wherein the substrate includes a SiGe layer atop a buried oxide layer.

Claim 3. (original) A method according to claim 1, further comprising a step of forming a gate stack on the substrate.

Claim 4. (original) A method according to claim 3, further comprising a step of forming a trench isolation surrounding the gate stack, source region and drain region.

Claim 5. (original) A method according to claim 1, further comprising a step of forming a first silicide contact on the first silicon layer.

Claim 6. (original) A method according to claim 1, further comprising a step of forming a second silicide contact on the second silicon layer.

Claim 7. (original) A method according to claim 1, wherein the first silicon layer is epitaxially formed silicon and the second silicon layer is epitaxially grown silicon.

Claim 8. (original) A method according to claim 1, wherein the raised drain region is comprised of a strained silicon layer atop a SiGe layer.

Claim 9. (original) A method according to claim 8, wherein the strained silicon layer is comprised of epitaxially grown silicon.

Claim 10. (original) A method according to claim 1, wherein the raised source region is comprised of a strained silicon layer atop a SiGe layer.

Claim 11. (original) A method according to claim 10, wherein the strained silicon layer is comprised of epitaxially grown silicon.

Claim 12. (canceled)

Claim 13. (previously presented) A method according to claim 1, further comprising steps of:

forming a third silicon layer over the cap of the first silicon layer over the raised source region; and

forming a fourth silicon layer over the cap of the second silicon layer over the raised drain region.

Claim 14. (original) A method according to claim 13, further comprising a step of removing the sacrificial spacers.

Claim 15. (original) A method according to claim 14, wherein the step of removing the sacrificial spacers includes etching away the sacrificial spacers.

Claims 16-28 (cancelled)

Claim 29. (previously presented) A method of fabricating a semiconductor structure, comprising:

forming a raised source region on a substrate;

forming a raised drain region on the substrate;

forming a strained silicon layer on the raised source region and the raised drain region; and

forming a silicon cap on the strained silicon layer.

Claim 30. (previously presented) A method according to claim 29, further comprising forming silicon sidewalls on the raised source region and the raised drain region.

Claim 31. (previously presented) A method according to claim 30, further comprising forming sacrificial spacers along the silicon sidewalls.

Claim 32. (previously presented) A method according to claim 31, further comprising forming a silicon layer on the silicon cap.

Claim 33. (previously presented) A method according to claim 32, further comprising removing the sacrificial spacers.

Claim 34. (previously presented) A method according to claim 33, further comprising forming silicide contacts on the silicon layer.

Claim 35. (previously presented) A method comprising:
providing an SOI substrate having a patterned gate stack region comprising a gate dielectric formed on a surface thereof;
providing isolation structure on sides of the patterned gate stack region;
forming a gate stack on the gate dielectric;
forming spacers along the gate sidewalls of the gate stack;

after spacer formation, forming raised source and drain regions comprising an SiGe layer;

forming a silicon layer on the SiGe layer of the raised source and drain regions, wherein the silicon layer has a smaller lattice constant than Ge such that the silicon layer is strained in tension; and

capping the raised drain region.

Claim 36. (currently amended) The method ~~of claim~~ of claim 35, wherein the SOI substrate includes a buried oxide layer sandwiched between a top Si-containing layer and a bottom Si-containing layer.

Claim 37. (previously presented) The method of claim 36, wherein the top Si-containing layer and the bottom Si-containing layer comprise Si, SiGe, SiC, SiGeC, Si/Si, or Si/SiGe.

Claim 38. (currently amended) The method ~~of claim~~ of claim 35, wherein the SOI substrate is formed by bonding and cutting processes or separation by implantation of oxygen (SIMOX) process.

Claim 39. (currently amended) The method ~~of claim~~ of claim 35, further comprising forming a dielectric-capping layer on the gate stack comprising an oxide, nitride or oxynitride.

Claim 40. (previously presented) The method of claim 35, wherein the SiGe layer of the source and drain regions are selectively epitaxially grown.

Claim 41. (previously presented) The method of claim 35, wherein the SiGe layer of the source and drain regions are comprise, in whole or in part, of a top silicon-containing layer of the SOI substrate.

Claim 42. (previously presented) The method of claim 35, wherein a thickness for the strained Si layer on top of the SiGe layer is below a critical thickness.

Claim 43. (previously presented) The method of claim 42, wherein the critical thickness is a maximum thickness that the strained silicon layer can grow on the SiGe layer without forming defects in a crystal structure.

Claim 44. (previously presented) The method of claim 35, wherein the capping is formed from a silicon capping layer.

Claim 45. (previously presented) The method of claim 44, wherein the silicon capping layer is selectively epitaxially grown on the SiGe sidewalls of the raised drain region forming protective sidewalls.

Claim 46. (previously presented) The method of claim 44, further comprising oxide portions alongside the raised drain comprised of the SiGe layer and the strained Si layer.